Remarks

Claims 1-18 were pending and subject to a restriction requirement limiting claim 10 to SEQ ID NOs 39, 43, 44, and 45. By this amendment claims 1, 4, 5, 10, 11, and 13-18 are currently amended; claims 2, 3, and 12 are canceled; and new claims 19-30 are added. No new subject matter is introduced.

Claim 1 is currently amended to incorporate limitations of canceled claims 2, 3, and 12.

Claim 5 is currently amended to make it an independent claim and to incorporate limitations of canceled claims 2 and 12.

Claims 1, 4, 5, 10, 11, and 13-18 are currently amended to substitute "immunostimulatory oligonucleotide" for "immunostimulatory nucleic acid".

Basis for new claims 19, 20, 29, and 30 which depend from claims 1 and 5 and specify a sequence GTCGTT and a human subject, may be found at pages 27-28 and at page 17, line 8. Elected SEQ ID NO:43 includes this sequence.

New claims 21, 22, and 23-28, which depend from claim 5 as currently amended, parallel claims 4, 11, and 13-18, which depend from claim 1 as currently amended.

Applicant acknowledges the Examiner's withdrawal of previous rejection of claim 1-18 under 35 U.S.C. § 112, first paragraph, for alleged lack of written description.

Information Disclosure Statements

1. Applicant notes that the Information Disclosure Statement (IDS) that was included as part of Paper No. 10 and marked to indicate the Examiner's consideration of the art cited in the Form 1449 submitted as part of Paper No. 6, did not include the last page (page 6) of the Form 1449 of Paper No. 6. Applicant therefore respectfully requests the Examiner to provide a copy of page 6

of the Form 1449 of Paper No. 6, indicating that the references cited on that page have indeed been considered by the Examiner.

2. Applicant also requests the Examiner to indicate that she has considered the art cited in a supplemental IDS that was received at the Patent Office on December 11, 2003.

Rejections Under 35 U.S.C. § 112, first paragraph

The Examiner indicated that she has maintained her rejection of claims 1-18 under 35 U.S.C. § 112, first paragraph, for alleged lack of enablement. More specifically, the Examiner stated that the examples provided of the induction of various interleukins in spleen, liver or thymus cells are not representative of the successful treatment of any atopic condition using any CpG containing oligonucleotide. Further, the Examiner indicated that while the scope drawn to treating an atopic condition comprising the mucosal or systemic administration of SEQ ID NO:10 is enabled, in her view this is not necessarily representative of the broader scope, comprising the administration of any CpG containing oligonucleotide. For reasons presented below, Applicant respectfully disagrees and requests the Examiner to reconsider and withdraw the rejection of claims 1-18 under 35 U.S.C. § 112, first paragraph.

First, Applicant wishes to emphasize that the current record provides ample basis for enablement of the claims. Specifically, Applicant has already provided examples of in vivo efficacy of CpG oligonucleotides in treating a variety of atopic conditions (of which there are few) using a variety of CpG oligonucleotides (including but not limited to SEQ ID NO:10), administered by a variety of routes and within a relatively circumscribed range of doses. It appears that in maintaining the rejection the Examiner has continued to focus on disclosed in vitro effects of CpG oligonucleotides and given little, if any, weight to the foregoing compelling in vivo data. It appears the Examiner wishes to place the burden on the Applicant to show the in vitro data is connected to the in vivo data. However, in view of the in vitro and in vivo data already of record, Applicant respectfully submits that it has met this burden and that, further, the Examiner has not shown that the in vitro data and the in vivo data are not connected.

Second, the foregoing notwithstanding, Applicant wishes to point out to the Examiner that, as disclosed at page 41 in the specification, a Th1 response can be associated with certain cytokines, e.g., IL-12 and IFN-γ, while a Th2 response is associated with certain other cytokines, e.g., IL-4 and IL-5. In vitro results disclosed in the specification include demonstration of induction of human PBMC IL-12 and IFN-γ secretion by various CpG oligonucleotides (Table 5, page 27) and demonstration of induction of human PBMC IFN-γ secretion by CpG-containing *E. coli* DNA (Table 6, page 29). Figures 13-15 demonstrate that in vivo treatment with CpG oligonucleotide results in decreased in vivo amounts of IL-4 and increased in vivo amounts of IL-12 and IFN-γ. Applicant therefore urges the Examiner to consider claim 1 as currently amended to be enabled because the foregoing clearly demonstrates that the immunostimulatory oligonucleotide induces a Th1 response and/or inhibits a Th2 response, i.e., evidences a nexus between disclosed in vitro effects and the claimed in vivo effects.

In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-18 under 35 U.S.C. § 112, first paragraph.

Summary

A Request for Continued Examination is filed herewith. The Examiner is requested to attend to certain matters relating to Information Disclosure Statements. Claim 1, 4, 5, 10, 11, and 13-18 are currently amended, claims 2, 3, and 12 are canceled, and arguments are advanced to overcome the rejection under 35 U.S.C. § 112, first paragraph. New claims 19 and 20, which depend from claim 1, and claims 21-30, which depend from claim 5, are added.

Applicant believes the claims are in condition for allowance. An early and favorable response is requested.

Respectfully submitted,
Krieg et al., *Applicant*

By: _____

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